



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 09/239,871 | 01/29/1999 | DOMINIC P. CARROZZA | 199.36691X00 | 6639 |
| 20457 | 7590 | 11/16/2004 | EXAMINER | |
| ANTONELLI, TERRY, STOUT & KRAUS, LLP 1300 NORTH SEVENTEENTH STREET SUITE 1800 ARLINGTON, VA 22209-9889 | | | | KUMAR, PANKAJ |
| | | ART UNIT | | PAPER NUMBER |
| | | | | 2631 |

DATE MAILED: 11/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|------------------------|---------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 09/239,871 | CARROZZA ET AL. |
| | Examiner | Art Unit |
| | Pankaj Kumar | 2631 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 01 October 2004.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 34-63 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) 34,35 and 53-63 is/are allowed.
- 6) Claim(s) 36-39 is/are rejected.
- 7) Claim(s) 40-52 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date _____
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date _____
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____

DETAILED ACTION***Response to Arguments***

1. The finality of the prior action is being withdrawn after reconsidering the objection to a claim which now is incorporated in claim 36.

Claim Objections

2. Claim 39 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sanders USPN 6,041,050 in view of Ishikawa 5,852,428.

5. As per claim 36. (New) Sanders teaches a receiver comprising: an input in the receiver (Sanders fig. 2c: 7; paragraph 46: "The apparatus uses this determination to select a cell from an appropriate source to fill a cell slot in the "Send" context, or to present the contents of the current cell slot in the sequence to the appropriate sink(s) in the "Receive" context.") which receives a time division multiplexed (Sanders: title) signal

containing a plurality of channels (Sanders fig. 5c has channels A, B, etc.) which has been transmitted from a transmitter (Sanders fig. 2c: 5 has been transmitted from a transmitter); a memory coupled to the input, including an addressable storage array which stores a sequence of data samples contained in the time division multiplexed signal from the plurality of channels (Sanders fig. 5c: right table) with each successive data sample belonging to a channel different than a channel to which an immediately preceding data sample belongs (Sanders fig. 5c: for example, second row of right table is from channel A, third row of right table is from a different channel) and outputs the stored data samples in a sequence of data groups equal in number to a number of the plurality of channels with each data group containing a plurality of samples from one of the plurality of channels (Sanders fig. 6: outputs of 36a to 36m which are collectively 19); and a decoder (Sanders fig. 17b: 92), responsive to the sequence of data groups (Sanders fig. 17b: 92 has 19 has its input), which decodes the data samples within the sequence of data groups and outputs decoded data samples of the plurality of data groups from the plurality of channels (Sanders fig. 17b: 95, 23).

6. What Sanders does not teach is wherein the memory comprises a write address generator and a read address generator and the addressable storage array contains memory cells which are addressed by addresses generated by the write address generator and the read address generator, the sequence of data samples being written in a group of memory cells with addresses generated by the write address generator, and the sequence of data groups being read out with addresses generated by the read address generator. What Ishikawa teaches in col. 1 lines 44 to 63 is wherein the memory comprises a write address generator and a read address generator and the addressable storage array contains

memory cells which are addressed by addresses generated by the write address generator and the read address generator, the sequence of data samples being written in a group of memory cells with addresses generated by the write address generator, and the sequence of data groups being read out with addresses generated by the read address generator. It would have been obvious to one skilled in the art at the time of the invention to modify Sanders to arrive at the specific memory as recited by the instant claims because the combined teaching of Sanders in view of Ishikawa suggests the memory comprising the elements as recited by the instant claims. Furthermore, one of ordinary skill in the art would have been motivated to combine the teachings of Sanders with Ishikawa since Sanders suggests the broad memory, in general, and Ishikawa suggests the beneficial use, that of how to access the memory, recited in the instant claims in the analogous art of reading out of the memory and writing into the memory.

7. In the alternative, regarding the claimed properties of the memory, the prior art, Sanders, is silent as to the properties of the memory and does not explicitly teach the limitations of wherein the memory comprises a write address generator and a read address generator and the addressable storage array contains memory cells which are addressed by addresses generated by the write address generator and the read address generator, the sequence of data samples being written in a group of memory cells with addresses generated by the write address generator, and the sequence of data groups being read out with addresses generated by the read address generator as recited by the instant independent claims. However, it is reasonable to presume that said properties are well within the scope or encompassed by the teachings of the prior art because the presumption is supported by the use of similar materials (i.e. memory) and in the similar

production steps (i.e. reading and writing) to access the memory. The burden is upon the applicant to prove otherwise. *In re Fitzgerald*, 205 USPQ 594.

8. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sanders USPN 6,041,050 in view of Ishikawa 5,852,428 and further in view of Linsky 6,279,132.

9. As per claim 37, Sanders in view of Ishikawa teach a receiver in accordance with claim 36. What Sanders in view of Ishikawa do not teach is wherein the receiver is contained in a satellite. What Linsky teaches is wherein the receiver is contained in a satellite (Linsky: col. 3, fourth full paragraph). It would have been obvious to one skilled in the art at the time of the invention to modify Sanders in view of Ishikawa to arrive at the satellite as recited by the instant claims because the combined teaching of Sanders in view of Ishikawa and further in view of Linsky suggests satellite as recited by the instant claims. Furthermore, one of ordinary skill in the art would have been motivated to combine the teachings of Sanders and Ishikawa with Linsky since Sanders suggests the broad recitations of switches and communications, in general, and Linsky suggests the beneficial use of satellite, that of uplinking communication data (which could be used for communicating over long distances), recited in the instant claims in the analogous art of communication.

10. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sanders USPN 6,041,050 in view of Ishikawa 5,852,428 in view of Linsky 6,279,132 and further in view of Shibagaki 4704715.

11. As per claim 38, Sanders in view of Ishikawa and further in view of Linsky teach a receiver in accordance with claim 37. What Sanders in view of Ishikawa and further in view of Linsky does not teach is the remainder of claim 38. What Shibagaki teaches is the remainder of claim 38 by teaching a channelizer (Shibagaki fig. 5: 90) coupled to the input and to the memory, which is responsive to an input bandwidth and which divides the input bandwidth into a plurality of output channels (Shibagaki: hence the term frequency division) each of equal bandwidth (Shibagaki col. 5 lines 49-55: "Accordingly, in the frequency-division multiplexing process, the signal components corresponding to audio signals S2, S3 and data signal S4 occupy a narrow frequency band approximately equal to that occupied by any one of signals S2, S3, S4 on the frequency axis, as is shown by reference numeral 52 in FIG. 3."), one of the output channels comprising the time division multiplexed signal (Shibagaki: since the TDM is channelized by the FDM, anyone of the output channels of the FDM has TDM data). It would have been obvious to one skilled in the art at the time of the invention to modify Sanders in view of Ishikawa and further in view of Linsky to arrive at the channelizer as recited by the instant claims because the combined teaching of Sanders in view of Ishikawa and further in view of Linsky with Shibagaki suggests the channelizer comprising the elements as recited by the instant claims. Furthermore, one of ordinary skill in the art would have been motivated to combine the teachings of Sanders in view of Ishikawa in view of Linsky with Shibagaki since Sanders suggests the broad recitation of transmitting through multiple channels (Sanders fig. 6 has multiple channels), in general, and Ishikawa suggests the beneficial use, that of how having all channels have the same amount of data (Shibagaki

col. 5 lines 49-55) for efficient transmission, recited in the instant claims in the analogous art of multiplexing.

12. As per claim 39, it has been discussed in the last section of claim 36.

Allowable Subject Matter

13. Claims 40-52 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

14. Claims 34, 35, 53-63 are allowed.

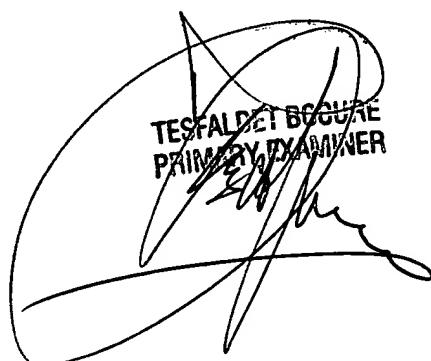
Conclusion

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pankaj Kumar whose telephone number is (571) 272-3011. The examiner can normally be reached on Mon, Tues, Thurs and Fri after 8AM to after 6:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H. Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PK



A handwritten signature in black ink, appearing to read "TESFALDET BOUCOUM". Below the signature, the words "PRIMARY EXAMINER" are written in capital letters.